

400/202

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P 'fencloine' 'dopa' stimulation 'reproduction' sexual act. inhibition by 'hypotensive' 'hydrazine' benserazide 'psychosedative' 'imidazole' pimoide 'phentolamine' 'LSD' = Delysid relation 'N-metab.' 'serotonin' 'noradrenaline' 'dopamine' hydroxyindole-acetic-acid conc. in 'brain' 'pineal-body' deprived rat congress /IX/ /XXII/ /XXVI/ /XXXII/

Pol.J.Pharmacol.Pharm. 27, Suppl., 69-75 /1975/

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The Role of Amines in Sexual Activity of Rats Deprived of Pineal Gland.

The role of amines in sexual activity of rats deprived of the pineal gland is described.

Methods

Male rats, 4 to 5-month-old, whose pineal glands had been destroyed at 20- to 25-days-old, were used. When the rats reached maturity, spontaneous locomotor activity, behavior in the open field and sexual activity were monitored. The effect of p-chlorophenylalanine (p-CPA, 100 mg/kg for 5 days), dopa (200 mg/kg for 5 days) alone or in combination with Ro-4-4602 (50 mg/kg), pimoside (0.1 mg/kg), phentolamine (10 mg/kg) and LSD-25 (30 µg/kg) on sexual activity was also investigated.

Results

Rats deprived of pineal glands had significantly increased interest in female sexual organs (42%) and number of rearings increased by 50%. Behavior in the 'open-field' test was increased in pineal gland deprived rats and accompanied by a 9% increase in dopamine levels. p-CPA potentiated the rats' sexual activity, the number of rearings increased by 233% and rearing together with copulation by 252%. Dopa caused similarly increases of 423% and 370% respectively. Ro-4-4602 plus dopa antagonized the dopa stimulating activity. Pimoside, phentolamine and LSD-25 totally abolished dopa-stimulated sexual activity. p-CPA plus dopa produced the most powerful sexual stimulation. p-CPA decreased the 5-HT level in the brain by 83%, 5-HIAA by 76%, DA by 11% and NA by 38%. Dopa increased DA by 29%, 5-HIAA by 20% and 5-HT by 16% and decreased NA by 17%. Ro-4-4602 plus dopa caused an increase in DA of 28% and a greater decrease in 5-HT and 5-HIAA

compared to dopa alone. Pimoside had no effect on amine levels but phentolamine decreased by 5-HT by 11% and increased DA by 12% and NA by 27%. LSD only increased DA by 17% and NA by 17%.

2 Tab. 24 Ref.

Z110/JLC/NL